INFORM
Strategies for a
better environment

120 Wall Street, 14th Floor
New York, NY 10005-4001

212 361-2400 Fax 212 361-2412
www.informinc.org

Mercury-Containing Products and Alternatives

Product	Applications	Substitute	Resources
Fluorescent Lamps	Indoor office lighting, compact fluorescent bulbs used to replace regular light bulbs, halo-shaped indoor bulbs, small fluorescent lights in backlit LCD displays in devices, appliances, navigational systems, etc.	All mercury-containing lamps should be recycled instead of thrown away at the end of their life. Take care not to break the lamps during transport and choose a qualified recycler. Office lamps: Although fluorescents contain mercury, they are preferred over incandescents because they are much more energy-efficient. Light-emitting diode (LED) systems can replace backlit LCD panels where visualization of information in a dark room is necessary. Energy-efficient LED exit signs can also replace signs that use halogen or fluorescent lighting. High-intensity discharge lamps: Mercury vapor lamps are the oldest and least efficient in this category. Sylvania makes a mercury-free high-pressure sodium lamp called the Lumalux Mercury Free/Eco lamp.	See http://www.lamprecycle.org for a list of companies nationwide accepting lamps for recycling. See http://yosemite.epa.gov/estar/consumers.nsf/content/exitsigns.htm and http://www.buildinggreen.com/products/ledexit.html for information on LED exit signs.
High-Intensity Discharge Lamps (mercury vapor, high-pressure sodium and metal halide)	Security lighting, outdoor and parking lot lights, warehouses		
Ultraviolet Lamps and Some Neon Lamps	Tanning beds, laboratory, medical, theatrical, signs, special purposes		
Manometers, Carburetor Synchronizers, Other Pressure-Measuring Devices	Laboratories, machine shops, auto repair areas (used for motor calibration)	Aneroid and electronic manometers and analog gauges (also known as vacuum gauges) are available at comparable prices for most uses from many vendors.	See http://abe.www.ecn.purdue.edu/~mercury/src/devicepage.htm for information on mercury manometer removal techniques.
Sphygmomanometers (blood pressure equipment)	Hospitals, school nurse offices	Aneroid and electronic devices are just as accurate when regularly calibrated.	See http://www.sustainablehospitals.org for a list of brand name mercury-free sphygmomanometers and calibrating equipment.

Product	Applications	Substitute	Resources
Barometers	Schools, doctors' offices, weather stations	Digital and other mercury-free barometers are available.	See http://abe.www.ecn.purdue.edu/~mercury/src/devicepage.htm for information on removal and alternatives.
Sink Sewage Traps (mercury in traps can evaporate and cause elevated mercury levels in the air around the sink)	Sinks in places where mercury may have been used: schools, hospitals, machine shops, industrial areas, etc.	All drains must be cleaned out properly and within regulations, and this process may require a hazardous materials professional. Mercury in traps could be adding large amounts of mercury to the facility's wastewater.	See http://www.masco.org/mercury/infra/pp6.html for trap cleaning protocol.
Elemental Mercury and Laboratory Solutions	School science laboratories, other industrial areas	For educational uses, mercury-free experiments or computer simulations are available. Mercury-free laboratory reagent substitutes are also available for many products.	For schools, see http://www.mercury-k12.org/. Hospitals and laboratories can contact their vendors for information on mercury-free substitutes.
Batteries (mercuric oxide, most zinc-air, alkalines manufactured before 1996, and foreign-made alkalines)	Rechargeable devices, battery-operated devices	Mercury-containing batteries should always be recycled. Choose battery-free devices when available.	The Rechargeable Battery Recycling Corp. takes rechargeable batteries for recycling (http://www.rbrc.org). Also see the EPA at http://www.epa.gov/epr/products/batteries.html for information on battery disposal and recycling.
Thermostats	On walls, in radiators, in devices that must maintain a constant or changing temperature such as incubators, refrigerators, freezers, and cold rooms. In most devices, you can remove the front plate and easily see the mercury switch inside.	Mercury-free electronic thermostats are available at comparable prices for all uses. Mercury thermostats must be discarded as hazardous waste.	Mercury wall thermostats can be returned for recycling via the Thermostat Recycling Corp. See http://www.nema.org/index_nema.cfm/664/ for return locations; see http://abe.www.ecn.purdue.edu/~mercury/src/devicepage.htm for information on removal and alternatives.
Outdated Mercury-Containing Equipment	Storage areas, basements, equipment rooms	Mercury-containing equipment that is no longer useful should be sent to a mercury recycling firm immediately to limit the risk of a mercury spill.	For a list of mercury product recyclers, see http://www.almr.org/members.htm or http://abe.www.ecn.purdue.edu/~mercury/src/recyclers.htm.

Product	Applications	Substitute	Resources
Float Switches	Septic tanks, sump pumps, industrial liquid tanks, and sewage plant systems	"Bubble troll," float-tilt, and electronic devices are now available.	See http://abe.www.ecn.purdue.edu/~mercury/src/floatswitch.htm for more information on identifying mercury float switches. Non-mercury replacement switches and equipment with non-mercury float switches are available from many manufacturers. Ask your vendor.
Switches in Electrical Equipment, Relays, Boilers, Cooling and Heating Equipment, Mercury-Containing Wall-Mounted Light Switches Manufactured Before 1991("silent switches")	Electrical equipment, HVAC systems, utility rooms, older small electrical devices, electric warming devices, other equipment with electrical switches	When buying replacement or new equipment, specify mercury-free switches, temperature devices, and relays, and buy gas equipment with *electronic* ignitions. For existing equipment, label all mercury-containing parts with bright tags so proper measures can be taken if something breaks or equipment must be discarded. If current equipment has a history of mercury spills, contact vendor to see if a mercury-free part is available to switch out.	See http://www.state.ma.us/ota/pubs/eppdec00.htm#mercury, http://www.sustainablehospitals.org/HTMLSrc/IP_Mercurygauges.html, and http://abe.www.ecn.purdue.edu/~mercury/src/devicepage.htm for more guidance. A fact sheet on mercury in appliances is available at http://www.aham.org/aric/aric.cfm.
Vehicles	Switches in trunk and hood lights, some four-wheel-drive antilock braking system (ABS) switches, mercury vapor (HID) headlamps	All foreign manufacturers phased out mercury-containing convenience lighting switches and ABS switches in 1993. All domestic models are expected to be free of these mercury components in 2002. Of current concern is the increasing use of mercury in other car applications. Where possible, avoid high-intensity discharge headlamps as well as backlit LCD dashboard displays and family entertainment systems, which may contain mercury. When going out for bid, require vendors to disclose all mercury-containing components.	It is estimated that 200 tons of mercury are present in vehicles on the road today. Before sending cars for recycling, ensure that the recycler will remove mercury components before crushing. For more information on the mercury content of specific models, see http://www.cleancarcampaign.org/mercury.html.
Gas-Fired Appliances, Boilers, and Heating Equipment	Gas appliances with standing pilot lights, chest freezers with internal lid light, pre-1972 washing machines with lid on/off switch, and older appliances such as irons and blenders may have mercury in the on/off switch.	Buy gas appliances with *electronic* ignitions to avoid standing pilot lights with mercury flame sensors. Buy chest freezers with lights in the body, not the lid.	A fact sheet on mercury in appliances is available at http://www.aham.org/aric/aric.cfm. More information is also available at http://abe.www.ecn.purdue.edu/~mercury/src/old_gas_range.htm.

Product	Applications	Substitute	Resources
Thermometers	Outdoor walls, hospitals, school nurses' offices, laboratories, incubators, temperature-controling equipment	Electronic thermometers are most often used in health care settings and in laboratory equipment. Alcohol and other types of non-mercury liquid thermometers are most often used in laboratories and weather stations.	See http://www.sustainablehospitals.org for information on medical, laboratory, and industrial mercury-free thermometers. Many states and localities are restricting the sale of mercury fever and industrial thermometers. See http://www.mercurypolicy.org for updated information on sales restrictions.
Laboratory and Institutional Size Ovens, Refrigerators, Stoves, and Freezers	Many industrial ovens and refrigerators/freezers have mercury temperature control devices. Gas stoves with standing pilot lights have mercury flame-sensor devices.	Specify gas appliances with *electronic* ignitions to avoid mercury flame sensors. Other equipment may use hard-contact switches, solid-state switches, electro-optical switches, inductive sensors, capacitive sensors, photoelectric sensors, and ultrasonic sensors instead of mercury.	See http://abe.www.ecn.purdue.edu/~mercury/src/devicepage.htm for information on removal and alternatives.
Cleaning Chemicals	Custodial closets, classrooms, laboratories	Bleach and other cleaning chemicals can contain trace contaminant mercury. Unless your facility is having mercury discharge violations with the local water treatment facility, pursuing mercury-free products may not be worthwhile.	See http://www.masco.org/mercury for case studies of Boston-area hospitals that had to find mercury-free cleaners to avoid mercury discharge violations with the local water treatment facility.
Flow Meters	Water and sewer plants, power stations, and heating plants may use mercury flow meters. Some household gas meters made before 1961 contain a mercury regulator attached to the gas meter.	For most uses your supplier will have a mercury-free model.	Specify mercury-free models when buying this type of equipment. See http://abe.www.ecn.purdue.edu/~mercury/src/flowmeter.htm for information on removal and disposal of existing mercury flow meters.
Demolition Waste	When remodeling, remove all hazardous components before dismantling structures. Mercury may be present in drain traps, light switches, and other locations.	When remodeling, specify mercury-free switches and other equipment for new purchases.	See http://www.enveng.ufl.edu/homepp/townsend/Research/DemoHW/Guide/DHW99_12_30.pdf for guidelines on removing hazardous materials before demolition.

Source: This table was compiled from many sources, including documents from the Sustainable Hospitals Project, Florida Center for Solid and Hazardous Waste Management, Purdue University/EPA Region 5 Mercury In Buildings, and the Massachusetts Office of Technical Assistance.

For more information contact Cameron S. Lory, Green Building Specialist, at (212) 361-2400 or lory@informinc.or g.